Elytra, Tokyo, **33** (1): 134–141, May 30, 2005

Cotasteromorphus, a New Cotasteromimina (Coleoptera, Curculionidae, Molytinae, Pissodini) from the Malaysian Moss Forests[1)]

Hiroaki KOJIMA

The Kyushu University Museum, Kyushu University,
Fukuoka, 812–8581 Japan

and

IDRIS Abd. Ghani

Centre for Insect Systematics, National University of Malaysia,
43600 UKM Bangi, Malaysia

Abstract *Cotasteromorphus chujoi* gen. et. sp. nov. is described from the moss forests of the Cameron Highlands, Pahang, Malaysia. The genus belongs to the subtribe Cotasteromimina of the tribe Pissodini, and is similar to *Cotasteromimus* CHÛJÔ et VOSS, 1960 described from Japan. Weevils are commonly found on the shrubs by beating at the type localities, and interestingly the sexes are rather biased to female (male : female = 1 : 13).

In the mountainous moss forests of the Cameron Highlands, Malaysia, we encounter many apterous beetles on shrubs. In Gunung Brinchang, the highest mountain in the area (alt. 2,032 m) it is quite diverse in such apterous forms and they include the families Dryopidae, Colydiidae, Tenebrionidae, Cerambycidae and the superfamily Curculionoidea. Among them, weevils are predominant in the number of species. They are Choraginae of Anthribidae, Stromboscerinae of Dryophthoridae, and Cryptorhynchinae, Molytinae and Entiminae of Curculionidae, and most of them belong to the Molytinae.

In our fourth study dealing with such apterous Malaysian weevils (KOJIMA & MORIMOTO, 2002; KOJIMA *et al.*, 2003; KOJIMA & IDRIS, 2003), a new genus of Cotasteromimina of Molytinae: Pissodini is established for a new species collected on the shrubs covered with lichens in the moss forests by beating methods. The weevil resembles *Cotasteromimus* described from Japan by CHÛJÔ and VOSS (1960).

We thank Dr. K. MORIMOTO for his critical reading of the manuscript and Drs. S. NOMURA, K. YOSHIZAWA, N. TAKAHASHI and Mr. M. Y. RUSLAN for their kind favor in

---

1) This study is supported by KAKENHI (14255016) (Head investigator: Dr. O. YATA).

many ways. The senior author also thanks Drs. C. W. O'BRIEN, K. MATSUMOTO and T. NONAKA for their kind offer of materials. Abbreviations used in this study are as follows: CWOB: C. W. O'BRIEN collection, Florida; ELKU, Entomological Laboratory, Kyushu University; KUM: The Kyushu University Museum, Fukuoka and UKM: Universiti Kebangsaan Malaysia, Bangi.

Cotasteromorphus KOJIMA, gen. nov.

(Figs. 1–23)

Type species: *Cotasteromorphus chujoi* gen. et sp. nov.

Derm often covered with waxy layer or incrustation, and clothed with decurved subrecumbent scales.

Head separated from base of rostrum by impression, top of eye lying about middle of base of rostrum in lateral aspect. Rostrum curved, shorter than pronotum. Antennae inserted before middle of rostrum in both sexes; scape not reaching eye, funicle 7-segmented, club ovate.

Prothorax truncate at base, with postocular lobes. Scutellum absent. Elytra without humeral callus; stria 10 almost abbreviated beyond hind coxa. Hind wings absent. Pygidium concealed. Legs with femora each armed with a small tooth; tibiae uncinate, premucro indistinct; tarsi with 3rd segment very broad, but not bilobate, 5th nearly as long as basal three segments combined; claws simple, free.

Prosternum with fore coxae narrowly separated; mesosternal process about half as wide as middle coxa; metasternum shorter than middle coxa behind it; metepisternum invisible. Metendosternite transverse, anterior tendons widely distant, each located on middle of furcal arm, lateral arm indistinct. Venter with intercoxal process broadly subtruncate, wider than hind coxa, 2nd segment nearly as long as 1st behind coxa, and as long as 3rd and 4th segments combined.

Terminalia as in figures (Figs. 10–12 for male; Figs. 13–23 for female); aedeagus with slit laterally; tegmen with parameres; sternite 8 paired; spiculum gastrale asymmetrical.

Etymology. From resemblance to *Cotaster*, a cossonine weevil genus, as *Cotasteromimus* was named after it, and masculine.

Comments. *Cotasteromorphus* resembles *Cotasteromimus* CHÛJÔ et VOSS, 1960 known from Japan, Korea and Taiwan, and belongs to the subtribe Cotasteromimina of the tribe Pissodini according to the definition given by MORIMOTO (1962): eyes partly concealed by anterior margin of pronotum; postocular lobe more or less developed; prosternum flat; fore coxae more or less separated; scutellum often indistinct; tibiae uncinate and abdominal process between hind coxae subtruncate, nearly as broad as

coxa. Two genera are previously known in the Cotasteromimina, and *Cotasteromorphus* is easily separable from them by the following key:

1(2) Antennae with funicle visibly 6-segmented. Elytra with rectangular shoulders; hind wings developed. Legs with femora edentate; tibiae with premucro indistinct; tarsi with 3rd segment not bilobed. . . . *Pseudohylobius* MORIMOTO, 1962

2(1) Antennae with funicle 7-segmented. Elytra with shoulders rounded or indistinct.

3(4) Elytra with shoulders indistinct; hind wings completely atrophied. Legs with femora dentate; tibiae each with premucro indistinct; tarsi with 3rd segment not bilobed. . . . . *Cotasteromorphus* gen. nov.

4(3) Elytra with shoulders variable from present to indistinct; hind wings present, but reduced in size if shoulders are indistinct. Legs with femora edentate; tibiae each with premucro; tarsi with 3rd segment bilobed. . . . . *Cotasteromimus* CHÛJÔ et VOSS, 1960

The features such as the non-bilobed 3rd tarsal segment and the dentate femora seen in *Cotasteromorphus* look like those of another apterous molytine genus *Pinacopus* MARSHALL, 1932 occurring sympatrically. However, the body is much smaller than in *Pinacopus*, and the rostrum is constricted at the base and the premucro of each tibia is undeveloped in *Cotasteromorphus*. The aedeagal feature, which has a slit laterally is also shared between *Cotasteromorphus* and *Pinacopus*. This is an unusual feature seen in *Cotasteromimus* CHÛJÔ et VOSS, 1960 (MORIMOTO & MIYAKAWA, 1985), *Seleuca* PASCOE, 1871 (MORIMOTO, 1982) and *Otibazo* MORIMOTO, 1961 (MORIMOTO & MIYAKAWA, 1985) as far as we know. Among them *Seleuca* and *Otibazo* differ from others in having the contiguous procoxae and are now classified in the Lithinini and Anchonini in the Molytinae, respectively. Presently *Pinacopus* is classified in the tribe Molytini (ALONSO-ZARAZAGA & LYAL, 1999), but the features seen in *Pinacopus* may indicate the affinity with Cotasteromimina in the tribe Pissodini and the position should be reinvestigated in the future.

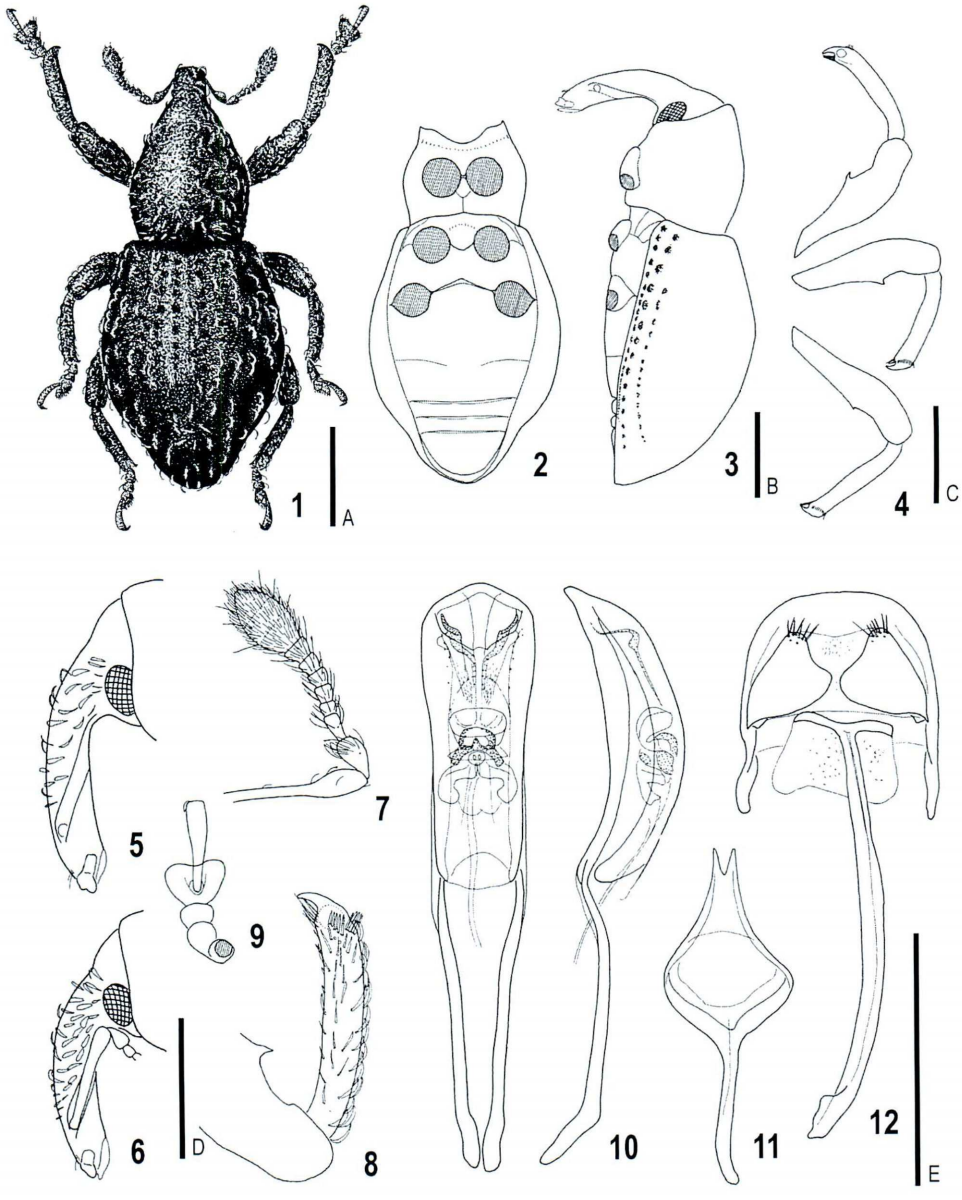
Cotasteromorphus chujoi KOJIMA, sp. nov.

(Figs. 1–23)

Male. Length: 1.7–2.1 mm; width: 0.9–1.0 mm.

Derm dark brown to black, antennal scape, unci of tibiae and claws paler, sometimes rostrum, antennae and legs dark reddish drown.

Head with dense small punctures, each with a fine recumbent scaly hair, forehead between eyes wider than base of rostrum. Rostrum 0.8 times as long as pronotum, dorsum with five rows of carinae behind antennal insertion, intervening area between them with decurved subrecumbent scales. Antennae inserted at apical 1/3 of rostrum; scape nearly as long as funicle; funicle with 1st segment 1.5 times as long as broad, 2nd 3/5 times as long as 1st, 3rd to 7th subequal in length, about half as long as 2nd; club as long as basal three segments of funicle combined.



Figs. 1–12. *Cotasteromorphus chujoi* gen. et sp. nov. —— 1, Habitus, female; 2, ditto, ventral; 3, ditto, lateral; 4, femora and tibiae; 5, head, female; 6, ditto, male; 7, antenna; 8, fore tibia; 9, fore tarsus; 10, aedeagus; 11, tegmen and parameres; 12, tergite 8, sternite 8 and spiculum gastrale. Scale=0.5 mm, bar A for 1; B for 2, 3; C for 4; D for 5, 6; E for 7–12.

Prothorax as long as broad, broadest at middle; disc with shallow punctures, each with a decurved subrecumbent scales, some of which are bifid or branched at apex. Elytra 1.2–1.3 times as long as broad, broadest at middle; striae rugosely punctate near base, punctures becoming weaker and smaller toward apex; intervals with decurved subrecumbent to suberect scales, which are often irregularly approximated to form clusters. Legs with decurved recumbent hairy scales.

Prosternum as shallowly punctate as lateral sides of prothorax; prosternal process and sternellum impunctate. Mesosternum shiny, separately punctate; mesosternal process densely punctate, each with a decurved subrecumbent scale. Metasternum with a transverse row of punctures, each puncture with a decurved subrecumbent scale. Venter with 1st ventrite weakly depressed at middle, 1st, 2nd and 5th ventrites minutely punctate, each puncture with a fine recumbent hair, 3rd and 4th ventrites almost impunctate.

Male genitalia as illustrated (Figs. 10–12), inner sac with complex sclerites; parameres reduced in size.

Female. Length: 1.7–2.5 mm; width: 0.8–1.3 mm.

Very similar to male, except venter with 1st ventrite not depressed at middle.

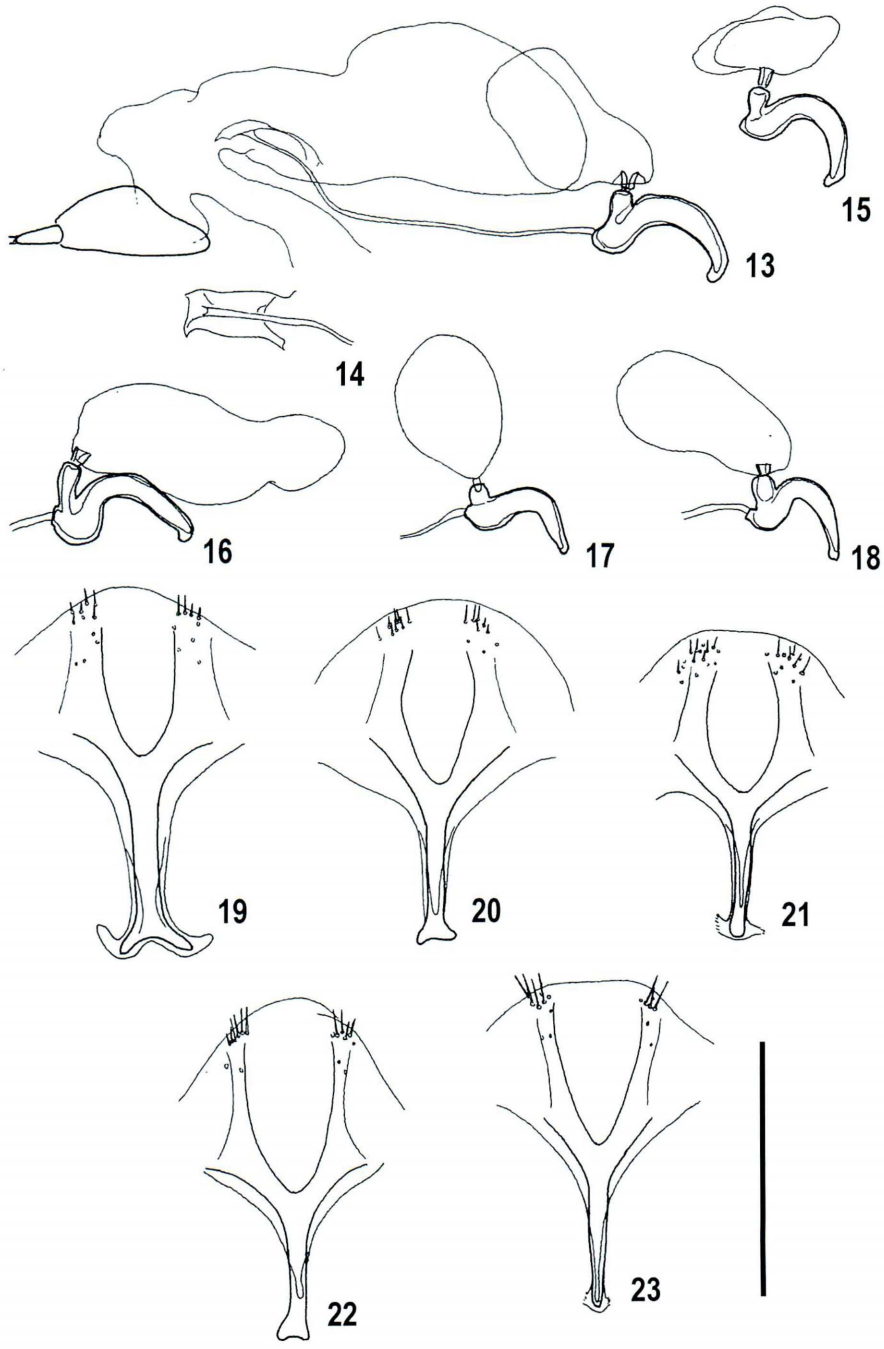
Female genitalia as illustrated (Figs. 13–23), bursa copulatrix with a weakly sclerotized plate at junction of base of spermathecal duct; sternite 8 varies from simple to divided at base.

Etymology. The name is dedicated to the memory of the late Dr. Michio CHÛJÔ, who was an eminent Japanese coleopterologist and contributed to the taxonomy of beetles including weevils.

Holotype: ♂ (UKM), Peninsular Malaysia: Pahang, Gunung Brinchang, Cameron Highlands, 27–III–2002, H. & M. KOJIMA.

Paratypes. Peninsular Malaysia: Pahang, Cameron Highlands. 2♀, 27~28–VIII–1990, T. NONAKA (KUM). 2♀, same locality as holotype, 17–V–1973, S. MIYAKAWA (ELKU); 3♀, 30–IV–1990, K. MATSUMOTO (KUM); 5♀, 19–VII–1995, H. KOJIMA (UKM & KUM); 2♂, 10♀, 11–III–2003, H. KOJIMA (UKM & KUM). 3♂, 21♀, same data as holotype (UKM & KUM); 3♀, 13–VII–2003, N. TAKAHASHI (UKM & KUM). 3♀, Brinchang, Tr. 3 (1,457 m), 16–VII–1992, C.W. & L.B. O'BRIEN (CWOB); 1♀, Tr. 10–12 (1,457 m$^+$), 29–VII–1992, C. W. & L. B. O'BRIEN (CWOB); 17♀, Tr. 11 (1,457 m$^+$), 18~19–VII–1992, C. W. & L. B. O'BRIEN (CWOB); 3♀, Tr. 2 (1,500 m), 17–VII–1992, C. W. & L. B. O'BRIEN (CWOB); 13♀, Arcadia Trail 3 (1,450 m), 31–VII–1992, C. W. & L. B. O'BRIEN (CWOB). 6♀, Tanah Rata, Trail 7 (1,350 m$^+$), 30–VII–1992, C. W. & L. B. O'BRIEN (CWOB). 1♀, Tanah Rata,

Figs. 13–22. Female terminalia of *Cotasteromorphus chujoi* gen. et sp. nov. —— 13, Genitalia, lateral; 14, sclerite of bursa copulatrix, ventral; 15–18, spermatheca; 19–23, sternite 8, ventral (13, 14, 16, 19, 20: specimens from G. Brinchang with clusters of scales on elytral intervals; 15, 23: specimen from G. Brinchang with scales arranged regularly on elytral intervals; 17, 21: specimen from G. Beremban with clusters of scales on elytral intervals; 18, 22: specimen from G. Jasar with scales arranged regularly on elytral intervals). Scale=0.25 mm.


13
14
15
16
17
18
19
20
21
22
23

30–VIII–1990, T. NONAKA (KUM). 1♂, 5♀, Gunung Jasar, 25–IV–1990, K. MATSUMOTO (KUM); 2♀, 19–IX–1990, T. NONAKA (KUM); 1♀, 29–IX–1990, T. NONAKA (KUM); 1♀, 21–II–1992, K. MATSUMOTO (KUM); 1♂, 15♀, 20–VII–1995, H. KOJIMA (UKM & KUM); 1♂, 1♀, 11–XII–1998, N. TAKAHASHI (KUM); 4♀, (alt 1,600 m), 14–XII–1998, H. INOUE (KUM). 3♀, G. Jasar-G. Perdah, 28–III–2002, H. & M. KOJIMA (KUM); 3♀, 9–III–2003, H. KOJIMA (UKM & KUM). 1♀, Tanah Rata–G. Jasar, 28–III–2002, H. & M. KOJIMA (KUM). 3♀, Gunung Beremban, 26～28–II–1992, K. MATSUMOTO (KUM); 2♂, 14♀, 22–VII–1995, H. KOJIMA (KUM).

Distribution. Peninsular Malaysia (Pahang).

Comments. Two forms were recognized in the scale condition of elytral intervals: one is that the scales are arranged nearly regularly in each interval and the other is not so and scales are irregularly disposed to form clusters as is illustrated (Fig. 1). Initially, we considered that they are divided into two species. They are occurring sympatrically, and one form has both sexes, but the other is represented by only female though a number of specimens were examined. Thus, we compared female genitalia of both forms and they were not distinguished from each other except for the scale condition. We therefore concluded that these forms may be intraspecific variations.

It is interesting that the sex ratio is extremely biased to female (male : female= 1 : 13) in this species.

要　　約

小島弘昭・A. G. IDRIS: マレーシアの蘚苔林から発見されたツチイロゾウムシ亜族（和名新称）の1新属. —— マレー半島キャメロンハイランドの蘚苔林から得られた，キボシゾウムシ族ツチイロゾウムシ亜族に含まれる新属新種のゾウムシを故中條道夫博士に献名し，*Cotasteromorphus chujoi* gen. et sp. nov. として命名・記載した．本属は，CHÛJÔ & VOSS (1960)により日本から記載された *Cotasteromimus* 属に似ているが，上翅の肩が張り出さず，後翅が完全に退化し，腿節には歯状突起を有し，付節第3節が，2葉状にならない点などで *Cotasteromimus* 属とは容易に区別できる．本種は，基準産地では蘚苔類に覆われた灌木から叩き網で比較的普通に得られる種で，多数の標本を検したが性比が著しく雌に偏っていた．

References

ALONSO-ZARAZAGA, M. A., & C. H. C. LYAL, 1999. A World Catalogue of Families and Genera of Curculionoidea (Insecta: Coleoptera) (Excepting Scolytidae and Platypodidae). 315 pp. Entomopraxis, Barcelona.

CHÛJÔ, M., & E. VOSS, 1960. Neue Curculioniden-Subfamilie, -Gattungen und -Arten von Japan (Coleoptera, Curculionidae). *Mem. Fac. lib. Arts & Educ., Kagawa Univ.*, (2), (94): 1–17.

KOJIMA, H., & K. MORIMOTO, 2002. Study on the Malaysian *Pinacopus* (Coleoptera, Curculionidae, Molytinae). *Spec. Bull. Jpn. Soc. Coleopterol., Tokyo*, (5): 425–445.

———, ——— & A. G. IDRIS, 2003. Notes on the apterous weevil genus *Pinacopus* MARSHALL (Coleoptera, Curculionidae, Molytinae). *Spec. Bull. Jpn. Soc. Coleopterol., Tokyo*, (6): 405–413.

——— & A. G. IDRIS, 2003. A peculiar new species of the genus *Antinia* PASCOE (Coleoptera: Cur-

culionidae: Entiminae) from Malaysian moss forests, with notes on the sympatric weevils and beetle of similar appearance. *Serangga*, **8**: 73–82.

MORIMOTO, K., 1962. Key to families, subfamilies, tribes and genera of the superfamily Curculionoidea of Japan excluding Scolytidae, Platypodidae and Cossoninae. *J. Fac. Agric., Kyushu Univ.*, **12**: 21–66.

——— 1982. The family Curculionidae of Japan. I. Subfamily Hylobiinae. *Esakia*, *Fukuoka*, (19): 51–121.

——— & S. MIYAKAWA, 1985. Weevil fauna of the Izu Islands, Japan (Coleoptera). *Mushi*, *Fukuoka*, **50**: 19–85.